

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
Martin J. H. Borley)
Serial No. 10/561,689) Group Art Unit: 4153
Filed December 22, 2005) Examiner: Dung Bui
PROCESS TO SEPARATE SOLIDS FROM A) May 15, 2009
SOLIDS LADEN GASEOUS FLOW)
)

COMMISSIONER FOR PATENTS
Alexandria, VA 22313-1450

Siri

PRE-APPEAL BRIEF REQUEST FOR REVIEW

In response to the Final Office Action mailed February 9, 2009, please consider the remarks which follow.

Please charge any necessary extension or other fees to avoid abandonment to
Shell Oil Company, Deposit Account No. 19-1800.

CLAIMS

1. (Previously Presented) A process to separate solids from a solids laden gaseous flow containing more than 100 mg/Nm³ solids, the process comprising:
 - (a) separating solids from the gaseous flow using a gas-solids separator resulting in a gaseous flow containing less than 50 mg/Nm³ solids and an underflow comprising the separated solids and part of the gaseous flow as fed to the gas-solids separator;
 - (b) separating part of the solids from the underflow in a cyclone wherein solids and a gaseous flow containing still some solids are obtained; and
 - (c) contacting the gaseous flow obtained in step (b) with water in the absence of a filter to separate the solids and obtain a gaseous flow containing between 0 and 50 mg/Nm³ solids; and
 - (d) combining the gaseous flows which are poor in solids as obtained in step (c) and as obtained in step (a).

REMARKS

Claim Rejections 35 USC §103:

In the Office Action the Examiner rejected to Claim 1 under 35 USC §103(a) as being unpatentable over Confuorto (U.S. Patent No. 6,551,565) in view of Geidies (U.S. Patent No. 4,328,011). Applicants respectfully traverse the rejection.

Applicant's Claim 1 teaches a process to separate solids from a solids laden gaseous flow containing more than 100 mg/Nm³ solids, the process comprising:

- (a) separating solids from the gaseous flow using a gas-solids separator resulting in a gaseous flow containing less than 50 mg/Nm³ solids and an underflow comprising the separated solids and part of the gaseous flow as fed to the gas-solids separator;
- (b) separating part of the solids from the underflow in a cyclone wherein solids and a gaseous flow containing still some solids are obtained; and
- (c) contacting the gaseous flow obtained in step (b) with water in the absence of a filter to separate the solids and obtain a gaseous flow containing between 0 and 50 mg/Nm³ solids; and
- (d) combining the gaseous flows which are poor in solids as obtained in step (c) and as obtained in step (a). (emphasis added).

Confuorto teaches a regenerator 21 that emits flue gas 200 that is separated by tertiary cyclone 22 into an overflow 201 and underflow 202. The underflow 202 is fed to a separator 23. (Confuorto, Figure 3). Confuorto does not teach or suggest the desirability of:

- (1) separating solids from the gaseous flow using a gas-solids separator resulting in a gaseous flow containing less than 50 mg/Nm³ solids, as taught in Applicant's Claim 1. In fact, Confuorto teaches against this by stating, "The overflow 101 of the TSS that would typically contain less than 250 mg/Nm³, dry basis, of dust, and preferably between 50 and 100 mg/Nm³ will be fed to a heat recovery unit or a CO boiler 13 and then to a SCR unit 14." (Confuorto, Column 5, Lines 3-6, emphasis added);

- (2) contacting the gaseous flow obtained in step (b) with water, as taught in Applicant's Claim 1; or

(3) contacting the gaseous flow with water to obtain a gaseous flow containing between 0 and 50 mg/Nm³ solids, as taught in Applicant's Claim 1.

The Examiner cited Geidies to remedy the defects of Confuorto. Geidies teaches a cyclone separator 2 with an outlet which flows into a duct 4, and encounters a wet washer 5 and disintegrator 6 and cooler 10. (Geidies, Figure 1, and Column 5, Lines 3-6, emphasis added);

Geidies also does not teach or suggest the desirability of:

(1) separating solids from the gaseous flow using a gas-solids separator resulting in a gaseous flow containing less than 50 mg/Nm³ solids, as taught in Applicant's Claim 1;

(2) contacting the gaseous flow obtained in step (b) with water, as taught in Applicant's Claim 1; or

(3) contacting the gaseous flow with water to obtain a gaseous flow containing between 0 and 50 mg/Nm³ solids, as taught in Applicant's Claim 1.

In addition, Applicants respectfully submit that Geidies is related to, "... a process for cleaning and cooling partial oxidation gases," (Geidies, field of the invention), and is not related to the field of FCC as taught by Confuorto. Applicants respectfully submit that there is motivation or suggestion to combine Geidies with Confuorto as taught by the Examiner.

Applicants respectfully submit that Claim 1 is allowable for at least the reasons discussed above. Claims 2-9 are directly or indirectly dependent upon Claim 1 and allowable for at least the same reasons.

Conclusion

Applicants respectfully submit that the claims are patentable over the cited art. In the event the Examiner has any questions or comments regarding the above-presented materials, the Examiner is invited to call the undersigned at the telephone number below prior to the issuance of any formal action.

Respectfully submitted,

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